REMARKS

Prior to this Reply, Claims 1-35 were pending. Through this Reply, Claims 1, 12, 18 and 23 have been amended. In addition, Claim 4 has been amended to correct a typographical error. No claims have been added or cancelled. Accordingly, Claims 1-35 are now at issue in the present case.

I. Finality

The Examiner has indicated that the present Office Action is "Final." Applicants believe finality of the present Office Action is improper. Accordingly, a separate Petition for Withdrawal of Finality is being submitted herewith.

II. Allowable Subject Matter

Applicants note, with thanks, the Examiner's indication of the allowability of Claim 30. Applicants have not amended Claim 30. Accordingly, Applicants still believe that Claim 30 is allowable.

III. Rejection of Claims 1, 2, 6, 9-12 and 15-17 Under 35 U.S.C. § 103(a)

The Examiner rejected Claims 1, 2, 6, 9-12 and 15-17 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,016,124 to Fukushima et al. (hereinafter "Fukushima") in view of U.S. Patent No. 5,689,159 to Culp et al. (hereinafter "Culp"). Applicants respectfully traverse the rejection because it is believed that the cited references, alone or in combination, fail to render Claims 1, 2, 6, 9-12 and 15-17 obvious, and/or because Culp is not properly cited in the present case.

A. Claims 1 and 12

1. Culp fails to disclose user selection of a maximum current draw or start-up current.

In the Office Action, the Examiner admits that "Fukushima does not disclose a user selected maximum current draw." However, the Examiner asserts:

> Culp discloses a motor control arrangement, which includes a control panel (Figure 1 items 36-44) through which a user can select a maximum torque/speed/current value for the motor (refer to the abstract).

Applicants disagree for numerous reasons.

a) Culp discloses selecting maximum torque and speed, but no capability of selecting maximum current.

The Examiner asserts that Culp's control panel allows the user to "select a maximum torque/speed/current value for the motor." The Examiner refers to Fig. 1, items 36-44 and to the abstract. In fact, this is not what Culp discloses.

Culp discloses that the user can "select a maximum torque value for the motor." (abstract, line 6). Culp also discloses that the user can "specify a maximum motor speed." (abstract, line 10-11). There is no disclosure in the abstract concerning selecting a maximum current. (It is unclear what the Examiner intends by the "slash" notation: "torque/speed/current." This notation is not found in either the cited reference or the claims. Accordingly, comments herein are directed to analyzing the actual disclosure of Culp *vis a vis* the claim language.)

Nor is user-selection of maximum current disclosed by items 36-44 of Fig. 1. The push-buttons section 36 of Fig. 1 permits a user to use the up and down buttons, 43, 44, to select values for either the "Gear Ratio" (using button 41) or for speed or torque (using button 42).

Nor does Culp disclose that setting a torque limit or a speed limit will result in limiting the current. This is because, in Culp's device, torque and speed are interrelated (See, e.g., Col. 9,

line 50 to Col. 10, line 4, especially equations (1) and (2)). For example, if one attempted to select a speed so as to limit the motor current, a drop in torque can cause the motor current to be increased. Col. 7, line 66 to Col. 8, line 7. Thus, while a speed selection under constant torque conditions might maintain a constant current, as soon as torque drops, the current will be automatically increased by the Culp device, thereby thwarting any attempt to use the speed selection as a way to limit motor current.

Similarly, the torque selection can not be used, in the Culp device, for purposes of selecting maximum current. According to Culp, during operation, even when actual torque is less than the maximum allowable torque, the actual speed of the motor may *exceed* the target speed. (This is clear since Culp indicates that in these conditions, it may be necessary to "increment or *decrement*" the value of "RATIO" in order to conform actual speed to the user-selected speed. Col. 14, lines 49-57).

Nor does Culp disclose using a combination of speed selection and torque selection for limiting motor current. Furthermore, Claims 1 and 12 have been amended (as discussed in section III.A.2 below) to distinguish devices that need to select *two* items, in order to choose a maximum motor current.

b) The Examiner has not shown that a brushless sensorless motor is known to be used "*for maximum current draw.*"

The Examiner asserts that:

> The brushless sensorless motor is used in disk drives and other similar types apparatus for maximum current draw.

Applicants respectfully disagree with this assertion. It is unclear whether the Examiner bases this assertion on Culp. While Culp does disclose using, as his motor *controller*, an item "designed primarily for applications such as operating the motor of a conventional disk drive"

(Col. 5, lines 43-45), Culp does not disclose that his device can use a disk drive motor (as opposed to a motor controller). On the contrary, Culp expressly states the "the motor for a computer hard disk drive is relatively small in comparison to the motor 23 utilized in the preferred embodiment" (Col. 5, lines 51-53). Even less does Culp disclose that his motor is used "for maximum current draw."

If the Examiner persists in asserting that "the brushless sensorless motor is used in disk drives and other similar types apparatus for maximum current draw," the Examiner is respectfully requested to provide specific support (e.g., column and line numbers in Culp or other references) for his assertion.

2. Culp fails to disclose selecting a maximum current draw or start-up current *without the need to make a second selection*

Culp discloses selecting a maximum torque and a maximum speed (abstract). As noted above, both torque and speed can affect motor current in the device of Culp. Although Applicants believe that Culp does not disclose (or render obvious) using a combination of torque and speed selection to limit motor speed, in order to further clarify Claim 1, such claim has been amended to include "receiving a maximum current draw first selection, selected by said user, *without the need for the user to make a second selection.*" Claim 12 has been similarly amended. Since, in Culp, (as shown above) both torque and speed affect motor current, user-selection of motor current requires selecting both speed and torque values.

3. Culp represents non-relevant and/or non-analogous art.

The present invention is providing a user-selectable start-up current *in a disk drive*. Culp is directed to a "surgical tool system with brushless, sensorless motor" (title) and particularly

related to "a dental drill." Col. 1, line 19. There is no reason to think that one of skill in the disk drive art would look to the art of dental drills, in order to solve disk drive problems. This is especially so since the problems faced in the dental drill motor area are different from those faced in the disk drive art, including as *expressly noted* by Culp (Col. 5, lines 51-58). Accordingly, it would not have been obvious to those of skill in the art to combine the disk drive disclosure of Fukushima with the dental drill device of Culp.

B. Claims 2, 6, 9-11 and 15-17

Claims 2, 6, 9-11 and 15-17 are patentable at least because they depend, directly or indirectly, from either Claim 1 or Claim 12. At least, Claims 2 and 15 are patentably for other reasons as well.

With regard to Claim 2, Fukushima and Culp fail to disclose a maximum current draw being equal to current drawn during seek operations. With regard to Claim 15, Fukushima and Culp fail to disclose that the power supply is *incapable* of supplying more than the maximum normal operating current.

IV. Rejection of Claims 18-29 and 31-35 Under 35 U.S.C. 103(a)

The Examiner rejected Claims 18-29 and 31-35 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,397,971 to McAllister (hereinafter "McAllister") in view of Fukushima and Culp. Applicants respectfully traverse the rejection because it is believed that the cited references, alone or in combination, fail to render Claims 18-29 and 31-35 obvious, and/or because Culp is not properly cited in the present case.

A. Claims 18 and 23

Claims 18 and 23 have been amended to include amendments similar to those made in connection with Claims 1 and 12. Accordingly, Applicants believe that Claims 18 and 23 are patentable, at least, for reasons similar to those discussed above in connection with Claims 1 and 12.

B. Claims 19-22, 24-29 and 31-35

Claims 19-22, 24-29 and 31-35 are patentable, at least, because they depend, directly or indirectly, from Claims 18 or 23.

V. Rejection of Claims 3-5, 13 and 14 Under 35 U.S.C. § 103(a)

The Examiner rejected Claims 3-5, 13 and 14 under 35 U.S.C. § 103(a) as being unpatentable over Fukushima and Culp (as applied to Claims 1, 2, 6, 9-12 and 15-17), and further in view of U.S. Patent No. 5,381,279 to Dunn (hereinafter "Dunn").

Applicants believe that Claims 3-5, 13 and 14 are patentable, at least, because they depend, directly or indirectly, from Claim 1 or Claim 12.

VI. Additional Claim Fees

In determining whether additional claim fees are due, reference is made to the Fee Calculation Table (below).

Fee Calculation Table

	Claims Remaining After Amendment		Highest Number Previously Paid For	Present Extra	Rate	Additional Fee
Total (37 CFR 1.16(c))	35	Minus	35	= 0	x $18 =	$ 0.00
Independent (37 CFR 1.16(b))	5	Minus	5	= 0	x $86 =	$ 0.00

As set forth in the Fee Calculation Table (above), Applicants previously paid claim fees for thirty-five (35) total claims and for five (5) independent claims. Accordingly, Applicants believe that no other fees are due. Nevertheless, the Commissioner is hereby authorized to charge Deposit Account No. 50-2198 for any fee deficiencies associated with filing this paper.

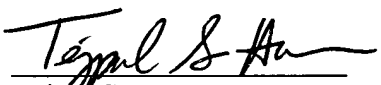
VII. Conclusion

It is believed the above comments establish patentability. Applicants do not necessarily accede to the assertions and statements in the Office Action, whether or not expressly addressed.

Applicants believe that the application appears to be in form for allowance. Accordingly, reconsideration and allowance thereof is respectfully requested.

The Examiner is invited to contact the undersigned at the below-listed telephone number regarding any matters relating to the present application.

Respectfully submitted,



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